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EXAMINER
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NGUYEN BA, HOANG VU A

ART UNIT	PAPER NUMBER
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2623

MAIL DATE	DELIVERY MODE
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06/13/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/042,891

Applicant(s)

JASINSCHI ET AL.

Examiner

Hoang-Vu A. Nguyen-Ba

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This action is responsive to the amendment filed April 3, 2007.
2. Claims 1-23 remain pending.

### ***Response to Amendments***

3. Per Applicants' request, Claims 1, 18 and 23 have been amended.
4. The objection to the specification is withdrawn in view of applicants' amendments.
5. The rejection of Claim 23 under 35 U.S.C. § 112, second paragraph is withdrawn in view of Applicants' amendments to the claim.
6. The objection to the drawings is however maintained because the drawings filed February 26, 2002 are informal. Formal drawings are required.
7. The rejection of Claim 23 under 35 U.S.C. § 101 as being directed to functional descriptive material NOT claimed as residing on a computer-readable storage medium is withdrawn in view of Applicants' amendment to the claim.

### ***Response to Arguments***

8. The rejection of Claims 18-21 under 35 U.S.C. § 101 as being directed to non-statutory subject matter is maintained because Applicants' arguments pursuant to the propriety of the rejection of these claims are not persuasive.

As submitted by Applicants, the final result of independent claim 18 is the identification of a segment of a multimedia data corresponding to a time period of uniformity during which a numerical value of an attribute of the element of the respective streams meets an attribute uniformity threshold and such final identification is useful, concrete and tangible to identifying the segments of multimedia data of interest as recited in the preamble.

In response to Applicants' arguments, the examiner respectfully notes the following:

a) if the claimed method does not use the identification step to achieve a real-world, useful, concrete and tangible result, the method does not have a practical utility; one would wonder as to the practicality of identifying segments of multimedia data of interest for the sake of identifying alone;

b) furthermore claiming only the step of identifying segments of multimedia data of interest without any other additional step is considered to be incomplete and indefinite, since the claimed step could be combined with any other conceivable steps to achieve different results which are useful, concrete and tangible. Such a step of identifying segments of multimedia data of interest would not only read on every conceivable method of processing multimedia data in the related art but also preempt the use of this step, if patented, in any other patentable method.

9. Applicants' arguments filed April 3, 2007 have been fully considered but they are not persuasive. Following is an examiner's response to applicants' arguments.

**a. 102(b) rejection of Claims 1-16 and 18-20 over Zhang:**

Applicants' arguments:

The Applicant respectfully traverses this § 102(b) rejection of independent claims 1, 18 and 23, because, among other things, *Zhang* fails to show and teaches away from "identifying a time period of uniformity, if any, during which the numerical value of the attribute of the element of the respective stream meets an attribute uniformity threshold" and "identifying a segment of the multimedia data of interest corresponding to an identified time period of uniformity" in as complete detail as recited in independent claims 1, 18 and 23...

... [F]or the temporal segmentation of shots, *Zhang* is not concerned with identifying a time period of uniformity of a segmented shot based on a numerical value of an attribute of an element within the segmented shot meeting an attribute uniformity threshold as required by the aforementioned limitation of independent claims 1, 18 and 23.

Examiner's response:

Examiner respectfully notes that contrary to Applicants' assertion *Zhang* does identify a time period of uniformity of a segmented shot based on a numerical value of an attribute of an element within the segmented shot meeting an attribute uniformity threshold. In section 2.2.3:

the claimed numerical value of an attribute of an element is met by *Zhang*'s mean  $\mu_t$ , and variance  $\sigma_t^2$  of the differences of a region under consideration between frames of a shot;

the claimed attribute uniformity threshold is met by *Zhang*'s  $\mu_A$ ,  $\mu_B$ ,  $\sigma_A^2$ ,  $\sigma_B^2$ ; and

the claimed time period of uniformity is met by *Zhang*'s "t." If during period t, the mean  $\mu_t$  is below  $\mu_A$ ,  $\mu_B$  and the variance  $\sigma_t^2$  below  $\sigma_A^2$ ,  $\sigma_B^2$  then that period of uniformity (or of minimal changes) in the attribute can help determine that the shot is an A shot, i.e., of anchorperson A.

Applicants' arguments:

Moreover, for the shot classification of segmented shots, *Zhang* actually teaches away from identifying a segment of the news media corresponding to an identified time period of uniformity as required by

independent claims 1, 18 and 22 [sic]. Specifically, *Zhang* teaches that such an identification process can be ineffective and time consuming. See, *Zhang* at subsection 2.2.2, paragraph 2.

Examiner's response:

In response to Applicants' *Zhang*-teaching-away argument, the examiner respectfully reproduces below part of the content of the subsection and paragraph cited by Applicants:

Unfortunately, the amount of variation over a set of similarly produced news programs may be too high for a fixed set of *a priori* model images to be effective. Variations in both who the anchorpersons are and what they are wearing from one program to the next will probably make matching against a single model very difficult, if not impossible. Furthermore, the matching algorithm, itself, can be very time-consuming, given the number of shots to which it may have to be applied. Therefore, **instead of** using predefined model images (emphasis added), we have developed an approach to first locate *potential* anchorperson shots using temporal features. We then acquire model images from these candidates for model matching.

According to the above paragraph, *Zhang* proposes to improve the ineffectiveness and time-consuming process of the matching algorithm by locating the potential anchorperson shots using temporal features.

Therefore, contrary to Applicants' assertion, *Zhang* does not teach away from identifying a segment of the multimedia data corresponding to an identified time period of uniformity as required by Claims 1, 18 and 23.

The rejection of Claims 1-16 and 18-20 under 35 U.S.C. § 102(b) over *Zhang* is thus maintained.

With respect to Claims 2-16 and 19-22, which depend respectively from base claims 1 and 18, the rejections of these claims are also maintained for the same reasons discussed in conjunction with the rejection of the base claims.

**b. Rejection of Claim 17 under 35 U.S.C. § 103(a) as being unpatentable over an article entitled “Automatic Parsing of News Video” to Zhang et al.**

Applicants’ argument:

Claim 17 depends from independent claim 1. Therefore, dependent claim 17 includes all of the elements and limitations of independent claim 1. It is therefore respectfully submitted by the Applicants that dependent claim 17 is allowable *Zhang* [sic] for at least the same reason as set forth herein with respect to independent claim 1 being allowable *Zhang* [sic].

Examiner’s response:

As set forth herein below in section 16, claim 17 is unpatentable over *Zhang* for the reasons discussed therein. Since Claim 17 depends from Claim 1, the rejection of Claim 1 is thus incorporated in that of Claim 17. The reasons discussed above for maintaining the rejection of Claim 1 are also applicable to Claim 17.

***Drawings***

10. The drawings filed February 26, 2002 are objected to by the examiner because the drawings are informal. Formal drawings are required in response to this office action.

The objection to the drawings will not be held in abeyance.

***Claim Rejections – 35 USC § 101***

11. 35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the condition and requirements of this title.

12: Claims 18-21 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

The Supreme Court has ruled that to be statutory, a claimed process must either: (A) result in a physical transformation for which a practical application is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application which produces a useful, tangible, and concrete result.. See Diehr, 450 U.S. at 183-84, 209 USPQ at 6 (quoting Cochran v. Deener, 94 U.S. 780, 787-88 (1876)) (“A [statutory] process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject matter to be transformed and reduced to a different state or thing.... The process requires that certain things should be done with certain substances, and in certain order; but the tools to be used in doing this may be of secondary consequence.”). See also Alappat, 33 F.3d at 1543, 31 USPQ2d at 1556-57 (quoting Diehr, 450 U.S. at 192, [209 USPQ at 10]). See also id. at 1569, 31 USPQ2d at 1578-79 (Newman, J., concurring)(“unpatentability of the principle does not defeat patentability of its practical applications”)(citing O’Reilly, 56 U.S. (15 How.) at 114-19).

i. “Practical Application of an Abstract Idea”

While the Supreme Court has ruled that “transformation” is relevant to a section 101 inquiry, the Court has expressly refused to hold that it is the only test for determining patent eligibility. The Federal Circuit has provided further guidance in distinguishing between the judicially-created exceptions to patentable subject matter and eligible subject matter. The focus of the inquiry is whether the claim, considered as a whole, constitutes “a practical application of an abstract idea.” State Street, 149 F.3d at 1373, 47 USPQ2d at 1600. Thus, the question of whether a claim encompasses statutory subject matter should not focus on which category of subject matter a claim is directed to (e.g., process or machine), “but rather on the essential characteristics of the subject matter, in particular its practical utility.” State Street, 149 F.3d at 1375, 47 USPQ2d at 1602; see also AT&T, 172 F.3d at 1360, 50 USPQ2d at 1453 (focus on section 101 inquiry is “whether the mathematical algorithm was applied in a practical manner”). Accordingly, an “abstract idea” when practically applied to a useful end is eligible for a patent. State Street, 149 F.3d at 1374, 47 USPQ2d at 1601 (“a process, machine, manufacture, or composition of matter employing a law of nature, natural phenomenon, or abstract idea is patentable subject matter even though a law of nature, natural phenomenon, or abstract idea would not, by itself, be entitled to such protection.”)(emphasis added); see also Alappat, 33 F.3d at 1543, 31, USPQ2d at 1556-57 (holding that “certain types of mathematical subject matter, standing alone, represent nothing more than abstract ideas until reduced to some type of practical application, and thus that subject matter is not, in and of itself, entitled to patent protection.”).

ii. “Useful, Concrete and Tangible Result”

In State Street, the Federal Circuit examined some of its prior section 101 cases, observing that the claimed inventions in those cases were each for a “practical application of an abstract idea” because the elements of the invention operated to produce a “useful, concrete and tangible result.” State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. For example, the court in State Street noted that the claimed invention in Alappat “constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it produced ‘a useful, concrete and tangible thing – the condition of a patient’s heart.’” Id.

In determining whether the claim is for a “practical application,” the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the final result is “useful, tangible and concrete.” The Federal Circuit further ruled that it is of little relevance whether a claim is directed to a machine or process for the purpose of a § 101 analysis. AT&T, 172 F.3d at 1358, 50 USPQ2d at 1451.

In this instance, it is unclear as to what the final result of the steps taken recited in claim 18 (i.e., identifying a time period of uniformity and identifying a segment of the multimedia) would be. Will the identifying steps used for forming a cumulative, inter-attribute, union of identified and single period, determined based on a dominant attribute with identified and single periods, determined based on another respective attribute, the union defining a story segment time interval having a start time and an end time (see Claim 22). Claim 18 is thus devoid of any final results that are useful, concrete, and tangible.

As a result, Claim 18 and dependent Claims 19-21 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter because these claims are not for a practical application that produces a useful, concrete and tangible result.

***Claim Rejections – 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejection under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1-16, 18-23 are rejected under 35 U.S.C. § 102(b) as being anticipated by Zhang et al. ("Zhang"), Automatic Parsing of News Video, May 15, 1994.

### Claims 1, 18 and 23

Zhang discloses at least an apparatus, a method and a computer program embodied on a computer-readable storage medium for *identifying segments of multimedia data of interest, the multimedia data comprising a stream of at least one of audio, video and text elements, the elements having at least one attribute with a numerical value, the attribute being indicative of the content of the element* (see at least section Introduction, 2nd ¶), *the computer program comprising:*

*an intra-attribute uniformity module for identifying a time period of uniformity, if any, during which the numerical value of the attribute of the element of the respective stream meets an attribute uniformity threshold* (see at least section 2.1, 2.2.3 two last ¶s and 2.24); *and*

*a module for identifying a segment of the multimedia data of interest corresponding to an identified time period of uniformity* (see at least 2.2.3, ¶ before the last ¶).

### Claims 2 and 19

Zhang further discloses *wherein the segment identifying module comprises an attribute consolidation module for consolidating pairs of identified time periods of uniformity into a single time*

*period of uniformity that temporally comprises the pair of identified time periods of uniformity (see at least 2.1, 3<sup>rd</sup> ¶).*

### **Claims 3 and 20**

Zhang further discloses *wherein the consolidating of a pair is based on a comparison between a time span intervening between the pair and a threshold that is based on the attribute and on a characteristic of a predefined thematic collection of data (see at least 2.1, 3<sup>rd</sup> ¶).*

### **Claims 4 and 21**

Zhang further discloses *wherein the attribute consolidation module identifies a dominant attribute based on a comparison between a threshold and a parameter of a time period of uniformity identified by the intra-attribute uniformity module (see at least 2.1, 3<sup>rd</sup> ¶; the dominant attribute being the changed pixel).*

### **Claims 5 and 22**

Zhang further discloses *wherein the segment identifying module further includes an inter-attribute merge module for forming a cumulative, inter-attribute, union of identified and single periods, if any, determined based on a dominant attribute with identified and single periods, if any, determined based on at least one other respective attribute, the union defining a story segment time interval having a start time and an end time, at least some cumulations in forming the union being conditional upon the existence of an intersection, at least partial, between an identified or single period being accumulated and an identified or single period already accumulated in forming the union (see at least 2.2.3-5).*

**Claim 6**

Zhang further discloses *wherein the inter-attribute merge module indexes the start time and end time of the story segment time interval by characteristics of content of a portion of the multimedia data that is temporally within the story segment time interval* (see at least 2.2.1, “[s]tarting and ending sequences” and 2.2.5).

**Claim 7**

Zhang further discloses *comprising a multimedia segment linking module for establishing a link among ones of indexed story segment time intervals that meet a segment relatedness criterion* (see at least section 4).

**Claim 8**

Zhang further discloses *wherein said at least one other respective attribute comprises at least two attributes, an ordering of attributes by which said cumulative, inter-attribute union is formed being determined based on comparisons between thresholds and respective parameters of a time period of uniformity identified by the intra-attribute uniformity module* (see at least 2.2.3-5).

**Claim 9**

Zhang further discloses *wherein the accumulations continue for multiple passes over the attributes* (see at least 2.2.4, 2<sup>nd</sup> ¶).

**Claim 10**

Zhang further discloses *wherein the multimedia data has a genre, and the ordering changes based on the genre of the multimedia data on a second pass and subsequent passes, if any* (see at least 2.2.5).

**Claim 11**

Zhang further discloses *wherein said cumulative, inter-attribute union includes identified and single periods that temporally intersect an identified or single period determined based on a dominant attribute by at least a predetermined ratio of a length of the respective identified or single period determined based on the dominant attribute (see at least 2.2.3-5).*

**Claim 12**

Zhang further discloses *wherein said inter-attribute merge module is configured to form an interim union of an identified or single period determined based on a first attribute with an identified or single period determined based on a second attribute, the interim union defining a period that is accumulated in forming the cumulative, inter-attribute union (see at least 2.2.3-5).*

**Claim 13**

Zhang further discloses *said at least one other respective attribute comprising at least two attributes, an ordering of attributes by which said cumulative, inter-attribute union is formed being subject to revision as said stream of elements is processed by said apparatus to identify one of said segments of multimedia data of interest (see at least 2.2.5).*

**Claim 14**

Zhang further discloses *wherein the segment identifying module further includes an inter-attribute merge module for forming a story segment time interval that temporally defines a story segment comprising content characteristic of a portion of the stream that is located within an identified or single period determined based on a dominant attribute (see at least 2.2.3-5 and 2.1, 3<sup>rd</sup> ¶).*

### Claim 15

Zhang further discloses *wherein the segment identifying module further includes an inter-attribute merge module for forming a cumulative, inter-attribute, union of identified and single periods, if any, determined based on a pre-defined, dominant attribute with identified and single periods, if any, determined based on at least one other respective attribute, the union defining a story segment time interval having a start time and an end time* (see at least 2.2.1, “[s]tarting and ending sequences,” 2.2.3-5 and 2.2.5).

### Claim 16

Since Claim 16 recites the features of Claims 4 and 5, the same rejections are thus applied.

### *Claim Rejections – 35 USC § 103*

15. The following is a quotation of the 35 U.S.C. § 103(a) which form the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claim 17 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Zhang et al. (“Zhang”), Automatic Parsing of News Video, May 15, 1994.

### Claim 17

Zhang does not specifically disclose *wherein the attribute comprises a close-caption attribute, the stream includes a text element having representative frames that have the close-caption attribute, the numerical value comprising a count of a number of close-caption marker elements*

*encountered in one or more consecutive representative frames in said identifying of a time period of uniformity.* However, Official notice is taken that it is well-known in the art to add closed-captioned text to video shots for the purpose of allowing hearing-challenged customers to follow newscast.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the automatic parsing process of news video taught by Zhang to detect closed-captioned text for the purpose discussed above.

### ***Conclusion***

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang-Vu “Antony” Nguyen-Ba whose telephone number is (571) 272-3701. The examiner can normally be reached on Tuesday-Friday from 7:15 am to 5:35 pm.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, John Miller can be reached at (571) 272-7353.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2600 Group receptionist (571) 272-.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).



ANTONY NGUYEN-BA  
PRIMARY EXAMINER  
TECHNOLOGY CENTER 2100

May 30, 2007